Los Alamos NATIONAL LABORATORY EST. 1943

AMENDMENT NUMBER 2 TO SOLICITATION NUMBER 511017

ISSUED BY:	TRIAD SUBCONTRACT ADMINISTRATOR:
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PROJECT NAME: Crossroads Supercomputer	
CURRENT PROPOSAL / BID DUE DATE: 3/18/2019	**REVISED PROPOSAL / BID DUE DATE:** N/A

DESCRIPTION OF CHANGES:

Amendment 2 is written to answer the following questions:

1. Question 1: Can the HPCG benchmark source code from git repo (https://github.com/hpcg-benchmark/hpcg.git) be used for characterization and projection instead of version 3.0 on the Crossroads web site? This version has optimizations beyond version 3.0 which permit significantly increased performance.

   Answer 1: The HPCG version provided on the Crossroads website must be used for the Base Results per the run rules provided on the Crossroads website and in the HPCG README. The Offeror is permitted to use the HPCG source code from the git repo for the Optimized Results. Please follow all submission guidelines for results submission.

2. Question 2: With respect to Section 3.5.9 of Exhibit D regarding MPI_Allreduce and MPI_Allgather Performance: How many MPI tasks per node should be used?

   Response 2: The Offeror should perform the MPI_Allreduce and MPI_Allgather using as many MPI tasks as there are processor cores, not counting finer grain processing units like hyper threads.

3. Question 3: With respect to Section 3.5.12 of Exhibit D regarding MPI_THREAD_MULTIPLE: Is the intended performance comparison here MPI_THREAD_MULTIPLE with a single thread versus MPI_THREAD_SINGLE?

   Answer 3: The Offeror should present results comparing MPI_THREAD_MULTIPLE and MPI_THREAD_SINGLE for a single thread, and is encouraged to present results for larger numbers of threads using the results from section 3.5.7 and 3.5.8 to demonstrate an efficient implementation of MPI_THREAD_MULTIPLE.

4. Question 4: With respect to Section 3.5.16 of Exhibit D which states: The Offeror shall describe how the system may be configured to support a high rate and bandwidth of TCP/IP connections to external services both from compute nodes and directly to and from the platform storage, including:

   a) The need to provide 100-300GB/s data flow from the platform storage to and from TCP/IP connections is understood. The wording, "support a high rate of bandwidth of TCP/IP connections to external services both from compute nodes and directly to and from the platform storage" is confusing. Does this imply that compute nodes need to provide

high bandwidth TCP/IP connections to external services?

b) "Compute node external access should allow all nodes to each initiate 1 connection concurrently within a 1 second window." Should the above bullet say "Platform storage" instead of "Compute node" or does this bullet imply that external nodes need to connect to compute nodes directly?

c) Transfer of data over the external network to and from the compute nodes and platform storage at 100 GB/s per direction of a 1 TB dataset comprised of 20 GB files in 10 seconds. This statement also states that data can be transferred to and from the compute nodes from the external network. Is that intended?

Answer 4:

a) Yes. Compute nodes will need to access external services like NFS for a variety of data input/output in addition to the "Platform Storage". It is also feasible that Compute nodes will also need to move data to visualization servers, etc via this connection.

b) Yes, see a)

c) Yes, see a)

Failure to acknowledge this amendment, formerly called an addendum, in accordance with the Instructions to Offerors or Solicitation Provisions may result in rejection of your proposal / bid. Except as provided herein, all terms and conditions of the Request For Proposal / Solicitation, as heretofore changed, remain unchanged and in full force and effect.

ISSUED ON BEHALF OF TRIAD BY:

Subcontract Administrator

2/11/19
Date

RECEIPT ACKNOWLEDGED BY:

Signature & Title

Date

Company Name